April 2005

Sisters Join Hands to Fight Breast Cancer

New Study to Discover Causes

Sisters share a lot more than laughter and secrets. They also share genes and many lifestyle choices. Scientists already know that if a woman has a sister with breast cancer, she is twice as likely to develop it, too. But what causes this link? To help scientists figure that out, many women with sisters who have had breast cancer are taking part in a new project called the Sister Study.

The study, which is organized by NIH's National Institute of Environmental Health Sciences (NIEHS), is looking for 50,000 women to participate who do not have breast cancer but have a sister who was diagnosed with the disease. Researchers will follow these women for at least 10 years, providing a huge set of facts to use in the search for the causes of breast cancer.

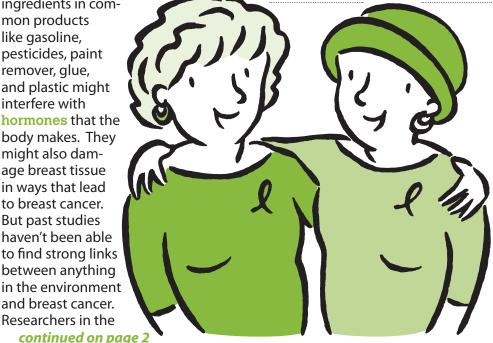
"I joined the Sister Study because I want to do my part in getting the word out about this dreadful disease and to find a cure for it," a woman who identified herself as Cruz explained. "As a Latina I feel even more responsibility to participate because I want the risk factors for breast cancer in my specific Latina community to be studied." Five of the six Cruz sisters are participating in the Sister Study. "All of us want to help prevent future generations from going through what [our sister] did," she said.

There don't seem to be quick answers to questions about breast cancer. Some think that

ingredients in common products like gasoline, pesticides, paint remover, glue, and plastic might interfere with hormones that the body makes. They might also damage breast tissue in ways that lead to breast cancer. But past studies haven't been able to find strong links between anything in the environment and breast cancer.



Chemicals made by living cells in the body that can travel in blood and other body fluids. They affect other cells, some far away from those that originally made them. Example: two female hormones made by cells in the ovaries, estrogen and progesterone, control the menstrual cycle.



Welcome

to the first issue of NIH News in Health, a free newsletter from the National Institutes of Health. NIH NiH brings you practical health news and tips based on the latest research from NIH, the primary Federal agency for conducting and supporting medical research. Upcoming issues will talk about lower back pain, the promise of personalized medicine and why you often eat more than you think you do. NIH NiH replaces The NIH Word on Health.

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Sister Study hope that all the information they gather will shed some light on the things that put women at higher risk.

The researchers want to get as much information as they can. They will collect blood samples and specimens of urine, toenails and house dust. They'll ask study participants about any diseases they've had, their life habits, jobs and living spaces.

What makes the Sister Study

unique is that all this information is being collected only on healthy sisters of women with breast cancer. Researchers hope this will help them separate out the differences that might affect their chances of developing breast cancer.

Knowledge about breast cancer grows stronger woman by woman, sister by sister. You're eligible for the Sister Study if you're a woman living in the U.S. between 35 and 74 years old who has never had breast cancer

but have a sister related to you by blood who has. If you're 60 or older, it's especially important that you consider joining; breast cancer rates rise as women age, particularly between 50 and 75. For more information or to join, call toll free at 1-877-4SISTER.



www.sisterstudy.org



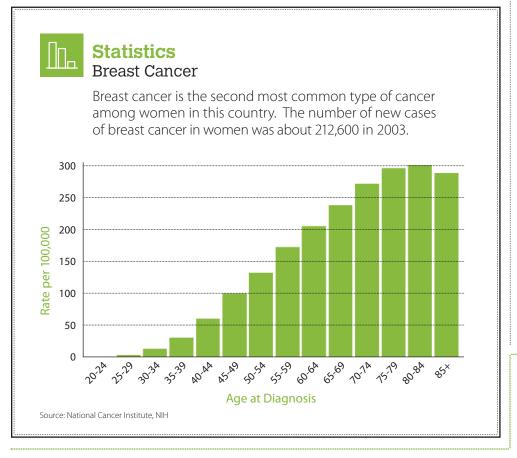
Wise Choices

How can I help the Sister Study?

There are 3 ways you can help the Sister Study:

- Join the Sister Study if you are eligible (see the story).
- Spread the word by telling other women to find out if they can join the Sister Study.
- Become a Sister Study volunteer and help make sure that all the women in your community know about the study.

NIH News in Health has a **brand new** website, too. Browse through current and past issues, download and print copies for friends and family, or follow the links to explore other resources offered by the National Institutes of Health. Visit newsinhealth.nih.gov.



NIH News in Health

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A Pain in the Pelvis

Spreading Cells Can Cause a Condition

Called Endometriosis

Pain can be the first sign that something's wrong—cramping pain in the pelvis or pain during sex. But for women of childbearing age, difficulty getting pregnant is most often what leads them to see a doctor. The culprit, endometriosis, is difficult to diagnose and may require a surgical procedure.

Endometriosis, or "endo" for short, is caused by tissue that normally grows along the lining of the uterus that begins to grow elsewhere—on the ovaries, for example. This "unauthorized" growth may be what causes pain.

Researcher Dr. Pamela Stratton is chief of the gynecology consult service at NIH's National Institute of Child Health and Human Development (NICHD). She says the really puzzling thing is that the degree of pain is not always related to the amount of endo. A woman feeling low levels of pain might have a number of large endo cell masses, yet a woman in a lot of pain might have only trace amounts.

Treatments may reduce her pain and improve fertility. The good news

are following the first of the

is that endo can often be treated while it is being diagnosed. There are two types of tests that can show images of unauthorized tissue growth—ultrasound and MRI—but only a surgical procedure called laparoscopy can confirm that the growth is endo. After masses are removed during the procedure, a lab determines if they are endo.

Ending pain permanently, however, can be more difficult, Stratton explains. For many women, the pain returns, signaling regrowth of the tissue. Because endo cells

are fed by estrogen, some doctors prescribe estrogen blockers to deprive endo of its food source.

"Treating the pain by altering hormone levels gets much more tricky," Stratton says. Lowering estrogen can limit endo growth, but it can also cause unpleasant side effects like hot flashes, unwanted hair growth and weight gain.

NIH scientists are working on new ways to treat endo. In one study, researchers

are hoping an estrogen drug called raloxifene can limit endo growth. Stratton and her colleagues are also working with other specialists to better understand how the brain processes the pain caused by endo. Other factors such as chronic stress may make endo pain worse.

Researchers are continuing to work on a variety of new ways to help women with endo pain. ■



Questions for Your Doctor

Can I volunteer for a research study if traditional treatments aren't working? You or your doctor can visit www.clinical trials.gov to look for information about clinical trials, studies that use human volunteers to answer health questions.



StatisticsEndometriosis

More than 5.5 million women in North America have endo. It affects about eight to 10 percent of women of childbearing age. Of women who are unable to conceive, untreated endo causes the infertility in about 30 to 40 percent.



Definitions

Ultrasound

An ultrasound machine sends out high-frequency sound waves that reflect off the organs within your body. A computer uses these reflected waves to create an image of your insides.

MRI (magnetic resonance imaging) Creates an image of your insides using a powerful magnet and radio waves.

Laparoscopy

Uses a tiny light, or laparoscope, through a small cut to look at the area in question and perform surgery.



www.nichd.nih.gov/ publications/pubs/ endometriosis/index.htm

Health Capsules

Just When Can a Woman Become Pregnant?

Medical textbooks say that an average woman is most **fertile** from 10 to 17 days after the first day of her menstrual cycle. But NIH researchers have shown what some women have long suspected: many women who think they can only become pregnant during this span become unexpectedly pregnant.

For some women with irregular cycles, there is hardly a day in the menstrual

cycle when they are NOT potentially fertile. The window of fertility is most unpredictable for teenagers and women approaching menopause.

Textbooks also usually say that women are fertile for several days after **ovulation**. Dr. Allen Wilcox of NIH's National Institute of Environmental Health Sciences (NIEHS) has studied fertility extensively. "The basic problem is that ovulation is so

unpredictable," he says. His fertility research has shown that women are fertile only on the day they ovulate and the five days prior to ovulation, not at all after ovulation.

"On average it occurs around day 15," he says, "but it can happen anywhere from day 8 to day 60 or later."

Most women don't know when they ovulate, however, and that's where it gets tricky.

While women are likely to be fertile between days 10 and 17 of their cycle, 70 percent of women have at least one of their fertile days outside that window, he explains. ■



Definitions

fertile

Able to get pregnant

ovulation

When the egg is released from the ovary



Statistics

Other interesting facts about pregnancy revealed by NIH research:

- Pregnancy can be detected as early as nine days after conception.
- Due to natural variations in cycle length, home pregnancy tests may not be able to detect a pregnancy on the first day of a missed period.
- A third of all pregnancies end in miscarriage, sometimes before a woman even knows she is pregnant.

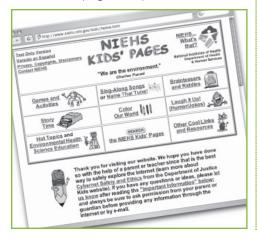


Featured Web Site

NIEHS Kids' Pages

www.niehs.nih.gov/kids

Got a budding scientist at home? The Kids' Pages from NIH's National Institute of Environmental Health Sciences (NIEHS) contain more than 1,100 pages of games and music that teach kids about science. There is also a whole series of kid pages in Spanish.



Hot Flash News Flash

Tamoxifen is an effective therapy for some types of breast cancer. However, about 80 percent of women who take the drug get hot flashes. While not life-threatening, hot flashes can be so uncomfortable that people stop taking the medicine. To make this cancer-controlling drug tolerable, doctors can treat tamoxifentriggered hot flashes with antidepressants like paroxetine. Taking both drugs together, however, may not be a good idea.

Dr. David A. Flockhart, an NIH-funded researcher at Indiana University School of Medicine, knew that the body breaks down tamoxifen and paroxetine with the same enzyme. He wondered whether taking both drugs together might affect blood levels of either or both drugs. To test this, Flockhart and Dr. Vered Stearns of Johns Hopkins University School of Medicine studied 12 breast cancer survivors who had been taking

tamoxifen for at least a month and were having severe hot flashes. The researchers gave paroxetine to the study volunteers for four weeks and then took blood samples from them.

Women who took both drugs at the same time had substantially lower levels of a key byproduct of tamoxifen—chemical evidence that paroxetine does affect how the body processes tamoxifen. The effects differed among the women depending on their natural ability to process drugs, which helps explain why tamoxifen's effectiveness can vary among people.

Flockhart cautions that until we learn more, the results of his study should not alter treatment recommendations. The health implications are still uncertain at this point.



DefinitionHot flashes

Temporary episodes some women get during menopause in which they feel warm and start to sweat, among other symptoms.